REMARKS

The office action mailed August 20, 2004 has been reviewed and carefully considered. By this amendment, drawing Figure 3 is amended and submitted for the Examiners consideration.

A new Abstract is included herewith on a separate sheet.

Claims 1 - 7 are cancelled without prejudice. Claims 8 – 13 are added..

The Examiner objected to the drawing Figure 3 because there are no descriptive labels provided for each box of the flow chart. To comply the Examiner's objection, submitted herewith is a proposed revision to drawing Figure 3. No new matter has been added. Applicants' respectfully request reconsideration and withdrawal of this objection.

Rejection under 35 U.S.C. §102

Claims 1 – 7 were rejected under 35 U.S.C. §102(e) as being anticipated by Shih et al. (US5543977), however, this rejection is rendered moot by the cancellation of claims 1 – 7.

New claim 8 and dependent claims 9 – 13 correspond in general to prior claims 1, 2, 5 and 6 and are presented to more clearly to distinguish over Shin et al.

The present invention relates to a method for controlling a search mode by means of a tape transport control in a helical scan video recorder enabled for a recording and/or reproduction of digital television signals in slanted tracks on a recording medium.

The inventive method is particular useful for recording digital television signals, see lines 30 to 34 of the first page of the specification. The expression "recording and/or reproduction of analogue" used in cancelled claim 1 is therefore not recited in new claim 8. This feature has no significance for the present inventive method. The method is, in particular, useful for D-VHS recordings, but could also be used by a DV format recorder. The expression "in particular in video recorder in accordance with a D-VHS system standard" has therefore also absent from new claim 8.

The essence of the claimed invention is represented by steps a) to g), which correspond to the method as described in the specification with regard to Fig. 2. The time periods used in steps a) to g) of claim 8 correspond to the time periods as used in the specification. Step c) of claim 8 defines the third time period and describes the complete procedure disclosed with regard to Fig. 2. Further, in step d), relating to the forth time period, the expressions "and holding said second tape transports speed", disclosed on page 4, lines 26 to 28, has been included also. Furthermore, the tape transport speeds v1 and v2 are now recited as "a first tape transport speed" and "a second tape transport speed" respectively, and consequently reference symbols v1, v2 are not included in claim

8. The first tape transport speed corresponds to a reproduction tape speed and the second tape transport speed to a rewind speed of said video recorder.

The method of claim 8 at step b) describes that a tape position is determined as a start position by reading control (CTL) pulses at a first tape transport speed in a second time period. In step c) a microprocessor carries out a calculation for the actual search, as disclosed on page 4, lines 35 to 40 and page 5, lines 1 to 3. In step d), the tape transport is accelerated to a second tape transport speed, the first tape transport speed corresponding to a reproduction tape speed and the second tape transport speed to a rewind speed. In the vicinity of the target position the second tape transport speed is reduced to the first transport speed at a fifth time period, and in a sixth time period the first tape transport speed is used, during which time the search is controlled by reading and evaluating of the slanted track numbering until the target position is reached. The reproduction tape speed is also known as replay speed and the rewind speed as fast-forward speed.

The Examiner cites US Patent 5, 543, 977 to Shih et al, which. teaches searching by use of longitudinal address tracks in conjunction with a partition booking file stored in memory. However, Shih et al, fails to anticipate the present invention as defined in claim 8 for the following reasons.

The search method disclosed by Shih et al. relates to a data recording system for computers and not to a recorder for digital television signals. Shih et al. record data by means of a helical scan method, but employ a track format with transverse data tracks and three longitudinal tracks. A first longitudinal track provides servo control (SVT), a second longitudinal track provides logical addresses (LAT) and a third track provides physical addresses (PAT), (see Figs 7 & 8).

Shih et al. use a partition access book keeping feature that stores information relating to locations at which searching or recording has been performed during a current load of a tape in the system, for retrieving respective data. The search methods as described in columns 30 to 32, longitudinal searching and helical searching methods, are very different from applicants': The longitudinal searching method uses only high speed tape movement operations, for example 60 times the normal recording speed, column 30, lines 61, 62, and 30 times the normal recording speed, column 31, line 3. The helical searching method is performed in the digital data domain and is not related to a fast speed tape movement operation.

As recited in claim 8, the first tape transport speed relates to a reproduction or play speed of the video recorder and the second tape transport speed to a wind speed. In particular, as described in step g) of claim 8, the second tape transport speed is reduced in the vicinity of the target position to the first tape transport speed and the search is controlled by reading and evaluating the slanted track numbering by moving to the target position at the first tape transport speed until the target position is reached. This feature is not shown or suggested by Shih et al.. In contrast, Shih et al.'s

method, as described in column 31, lines 1 to 6, uses a high tape transport speed when approaching the target position, which results in an overshot. Unlike applicants' method which uses the reproduction tape speed to approach the target position and therefore the target position is reached in a single step without any overshot.

In addition, although Shih et al. teach searching by use of longitudinal address tracks 172 and or 174. Shih et al. makes no mention nor suggestion of using control pulses present in servo track 176, as applicants recite in step b) wherein,

> "....determining a tape position as the start position by reading control pulses at a first tape transport speed in a second time period...",

and in step e) wherein,

> "...controlling the tape transport by reading and evaluating successive control pulses with reference to the start and/or target position during said fourth time period...".

Since Shih et al. makes no mention nor suggestion of using control pulses and fails to disclose applicants' control sequence, claim 8 is not anticipated nor rendered obvious by the teachings of Shih et al.

Claims 9 - 13 depend from claim 8 and are, for the same reasons patentable over Shih et al.

Applicants have demonstrated significant differences between the newly added claims and the teachings of Shih et al. and believe the new claims to be in condition for allowance which is respectfully requested.

Respectfully submitted,

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Attachments:

- Replacement DrawingSheet 2/2
- Replacement Abstract

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ABSTRACT

A helical scanning video recorder has a search mode, which enables the recording and/or reproduction of digital television signals. The search for a target position of a recorded digital television signal is carried out with reference to a track-accurate tape position as an absolute start position, which is derived by reading control (CTL) pulses at a first tape transport speed. Then the tape transport is accelerated to a second tape transport speed by means of a tape winding device and held at the second tape transport speed. During the second tape transport speed, an evaluation of control pulses is made and, upon reaching the vicinity of the target position, the tape transport speed is reduced to the first tape transport speed and the search is completed at that lower search speed.